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(54) Title: METHOD FOR IN VIVO DETERMINATION ON TESTED ANIMALS OF THE EFFICIENT CONCENTRATION OF DEUTERIUM DEPLETED WATER FOR CANCER THERAPY

(57) Abstract: As per invention embodiment, the method provides Deuterium Depleted Water administering to tested animals before and after tumoral grafting with animal grafts and it takes the following steps: A) Deuterium Depleted Water administering to Wistar outbred rats by diet, with concentrations of 25 ppm D2, 60 ppm D2, and 100 ppm D2, over a period of 60 days, simultaneously to dieting a control group of animals with water having 150 ppm content of Deuterium (tap water), over the same period of time. B) Viability determination for the tumor cells to be grafted, using *trypsin* blue C) Grafting of the animals in the experimental group and the control animals in the 60th day, subcutaneous, with 1 x 10⁷ malign tumor cells in 0.5 cc of normal saline solution of 256 Walker sarcoma (the solid tumor), and T8 Guérin lymphotropic epithelioma (the solid tumor) both of them having cells with a viability over 98%. D) Continuously and long-term administering, by diet, of Deuterium Depleted Water, with concentrations of 25 ppm, 60 ppm, 100 ppm Deuterium, period over which the following are to be done: a. Starting with the 4th post-graft day the tumor nodules measurement and examination is performed on each 2-3 days; b. Monitoring of animals' physiological condition by weekly weighing, monitoring their food and water consumption, notifying the toxic condition occurrence c. After 60 days, when all the animals in control group are dead, preferable between the 160th and 200th day after graft, the effect produced by administering of established concentrations of Deuterium Depleted Water is observed on the surviving animals homeostasis from experimental groups, respectively the way how humoral immune system and cellular immune system of these animals has been influenced, by performing of a series of examination on immunological condition of the animals, namely: leucocytes formula test to establish lymphocytes and blastic cells levels; hematopoietic marrow tests to establish the *plasmocytes* and NK-K cells levels. Also, was established the level of the competent immunologic cells in the lymph nodes of the tumoral graft zone. E) Determination of efficient concentration of Deuterium Depleted Water for tested surviving animals depending on new homeostasis occurrence, and on the results obtained related to tumoral regression, as well as on cancer curing cases. This method determines the 60 ppm concentration of Deuterium Depleted Water to be the most efficient for cancer therapy and prophylaxis by continuously and long-term administering of this type of water in daily diet.

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